DOCUMENT RESUME

ED 431 528 PS 027 638

AUTHOR Montopoli, Linda
TITLE Building Minds by Block Building.
PUB DATE 1999-00-00
NOTE 11p.
PUB TYPE Reports - Descriptive (141)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Cognitive Development; Early Childhood Education; Emotional Development; *Language Skills; *Mathematics Skills; *Physical Development; *Play; *Preschool Curriculum; Social Development
IDENTIFIERS *Blocks

ABSTRACT

Noting that the process of playing with blocks supports the groundwork for learning in every area of a child's growth, this paper discusses specific uses of building blocks in the early childhood curriculum to develop a child's physical, social, emotional, artistic, language, scientific and mathematics growth. The paper outlines the contributions blocks can make to different areas of the curriculum in the areas of physical development, social studies, art, language arts, science, and mathematics, and notes special benefits to a child's self-esteem and social interactions. (JPB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

Linda Montopoli

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED 431 528

ABSTRACT - Working with block building in an early childhood program has many positive benefits for broadening the minds of children. The areas that block building are able to influence and expand on are as follows. Potential Contributions of Blocks for Early Childhood Curriculum *Physical Development, Social Studies, Social-Emotional, Art, Language Arts, Science and Mathematics.*

BUILDING MINDS BY BLOCK BUILDING

Working with block building in an early childhood program has many positive benefits for broadening the minds of children. The process of playing with blocks supports the groundwork for learning in every area of a child's growth. It provides children challenge, visual stimulation and hands-on stimulation. The meaningful and expanded opportunities presented by blocks are unlimited. Block play involves the entire child in the ability to be creative. It also touches on many different stages of development of physical, social, emotional, artistic, language, scientific and mathematics growth. Blocks are versatile to children's levels of growth, learning manner, needs and interests. Working with blocks gives the child a creative release and basic ease for learning. "In short, 'building with blocks' is exactly what the name implies: building materials for the child's total growth". (Laitres, 1997)

The wide range of skills, aptitudes, or interests that blocks are able to touch on enables it to have significant value as a child's first toy. With blocks, a child is made aware of basic knowledge in the world in ways that are similar to many adult situations. Block play introduces the start of many different skills which make the foundation for growth of doing and thinking actions that are essential to all

PS 027638

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
Linda Montopoli
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

BEST COPY AVAILABLE

learning. Children put together their ideas and conceptions in building tangible copies of the world.

Belief has it that playing with blocks allows a logical thinking procedure to begin. Yet, before the development of logical thinking, a great deal of thought and communication is essential. Block play can be one of the best activities supporting this experience in the classroom and in the home.

The creativity children can demonstrate in playing with blocks is limitless. A young child has the ability to carry, drop, push, pile and line up blocks, or use one as anything the child's imagination puts a name to it. An older child will build, alone or with friends, any structure it puts a name to.

POTENTIAL CONTRIBUTIONS OF BLOCKS FOR EARLY CHILDHOOD CURRICULUM*

Physical Development - Hand manipulation, Eye-hand coordination Visual perception, and cleanup.

As a child continuously plays with blocks he is able to develop his physical skill. "Block play offers all kinds of opportunities for bending, stretching, lifting, carrying, reaching, pushing, placing, balancing. Blocks require children to use their bodies, their muscles to carry out their individual ideas. Through block play, they utilize both physical control and eye-hand coordination in many different ways -- as they move around their constructions, as they manipulate the blocks themselves." (Childcraft Education Corp. 4)

When a child plays with blocks, he not only becomes more knowledgeable of what he is able to accomplish, but is able to also expand his physical development. His gross motorskills are refined as he lifts, stretches, and crawls. As he moves

and builds with each block his fine muscle control also expands. Cleanup of the blocks allows for a great deal of exercise. A child's eye-hand and hand-hand coordination become more accurate through the child's experience in handling blocks and replacing the blocks at cleanup. The use of large hollow blocks provides children with the opportunity to create structures that they can physically stand and walk on, as well as physically enter. "They help children develop large muscle strength and can be used to create settings (stores, puppet stages, forts, etc.) for dramatic play." (Provenzo & Brett 1983, 70)

As children work with block building they develop both large and small motor coordination and sensitive eye-hand perception. When children respect other's work, "children learn to maneuver with finesse between crowded buildings, achieving balance, control, and spacial awareness." (Cartwright, 1988)

Social Studies - People and their work, Mapping, Grids, Patterns, Interdependence of people, and Symbolic representation

As a result of block play a child is introduced to the basic details present in the real world. "Block play initiates the beginnings of many different skills which form the basis for developing the doing and thinking behaviors fundamental to all learning." (Childcraft Education Corp., 3) Children are able to put together their ideas and understandings in building block models of their real world.

Children are able to build pretend buildings of houses, roads, farms and other things they acknowledge as part of their communities. Children are thinking as they build with blocks, and at the same time are also expanding knowledge that will be important throughout their lives.

"Children need to explore with blocks from infancy in order to master the developmentally appropriate basic forms of construction (stacking piles, making rows, arching enclosures)." (Reifel 1984, 66) Young toddlers and infants should also experience block play. Cloth covered foam cubes and soft plastic blocks are age appropriate for the younger children. At this age most children will find pleasure in holding, chewing, and throwing them. They also begin hiding them in boxes and attempt putting a creation together. Older children, however, can use wooden blocks of all shapes and sizes.

When a child plays with blocks their knowledge of spatial relationships are broadened. The child is able to use ideas and words; such as under and over. In addition, they can use their words to explain relationships of the structures that they are in the midst of building.

"Through blocks the child can recreate his or her environment and clarify ideas about the world. The child can represent various aspects of community life using blocks, perhaps building a model of a place the class has visited." (Provenzo & Brett 1983, 43) Due to the re-creation of model places children are able to concentrate on sharing, leadership, responsibility and cooperation.

A child can recreate an event or situation through block play using the knowledge of his environment. He is able to utilize his ideas and understandings of the world around him. Through sharing information with his classmates children are able to learn from one another. Therefore, block building is able to provide valuable learning experiences for young children at play. When a child plays with blocks knowledge is broadened by the "nature of basic materials, what things can

be made to mean, what is allowed in the realm of the imagination, and what is permissible in the society of one's playmates" (Provenzo & Brett, 1983, 2)

Social-Emotional - Feeling of competence, Cooperation, Cleanup, Respect for the work of others, Self-confidence, Autonomy, and Initiative

The process of playing with unit blocks invites group work. When children build a structure together, they learn to appreciate different skills and ideas. Group building and play teaches children to get along with one another. There is a distinct feeling of satisfaction in working together and combining ideas together as a group.

Working with blocks adds to the development of a child's self-confidence. A child has the ability to create a block structure and is in control of the building. There is a sense of achievement through mastering manipulative materials.

Working with blocks excites a child's imagination and creativity. Blocks allow a child to experiment with different situations resulting in a masterpiece of his individual idea or plan. A child is given a wide range of possibilities within which to build.

"Blocks allow the child to experiment with roles and situations perhaps not yet experienced and to work out feelings from previous experiences through dramatic play" (Provenzo & Brett, 1983, 38). A child could pretend to be the teacher or a student after building a school. After building a zoo a child could pretend to be the zoo keeper or a tourist visiting the site.

Attempting to re-create a familiar neighborhood or organizing a "make believe" town enables children to plan, communicate and work together with other

children in the block area. Different roles appear, and children take responsibility for their part of the work and the difficulties are solved on an agreeable basis.

Art -Patterns, Symmetry and Balance

When a child is able to work with blocks with ease the child moves on to build decorative patterns and a balanced art structure. A form of repetition of blocks leads to a design which the child is able to create on their own. The child is able to build a structure of beauty and balanced proportions which is symmetry.

Language Arts - How to do it, Cleanup, Reading. Shape recognition, Differentiation of shapes, Size relations, Signs, Labeling, Directions, Questions about concepts, Exchange of ideas, Planning of building, Naming of building, Function of building, and Stories about building.

During block play, children are able to learn vocabulary for ideas they have created by building. Certain ideas are expressed by their words as to the structure they are creating, its size, where they will build it, and its purpose. Children working with blocks are encouraged to communicate with the surrounding group of children that they are building next to. They are able to find new words to define their ideas and learn new words from each other. Having a child talk about what was built and asking questions about what the child is doing enables the child to share ideas which the child may have experienced or thought about. This activity benefits language skills and also provides the growth of self-confidence for the child involved in building.

When children build together, their feeling of working together as a team grow. They learn to work with their ideas and blocks as a group by sharing and

taking turns. The children learn the valuable lesson of working together as a team and respecting the ideas of others. Communication between the children helps to develop their self-expression. The process of putting the blocks away at cleanup time is an important part of the block experience. If an adult gets involved by asking "questions such as "How many blocks can you carry?" and "Where do these blocks belong?" stimulate thinking and language on the part of the child". (Provenzo & Brett, 1983, 90)

Science - Trial and error. Inductive thinking and Discovery, Gravity, Stability, Weight, Properties of matter, Interaction of force, Balance, Inclined plane ramps and Systems.

The characteristics of size, shape, area, and volume are connected to the areas of science and math. Knowledge of science is easier learned through the presentation "processes of inquiry, such as observing, comparing, classifying, predicting, and interpreting". (Hirsch, 1996) Block building is an area that is easy for children to work with resulting in the use of these procedures. When children discover and create new buildings their scientific knowledge is working as they learn to create new structures, compare and characterize other sizes and shapes, try out thoughts of "If I do this what will happen?", or recognize prior knowledge they have acquired to foretell what will happen when they build with blocks similar to an experience they have gone through. Every block has individual physical characteristics, whether it be size, shape, weight or three dimensionality and unique properties of thickness, width and length.

The process of matching and sorting blocks according to characteristics is vital for increasing scientific knowledge. Motivating children to replace the blocks at cleanup helps to increase the classification procedure.

Systems and the changes that happen within systems are important factors that are noted in science education. "A block construction is a system composed of parts that are in equilibrium, and this system is established through the interaction of certain parts that are in balance." (Hirsch, l996, 29)

Block building motivates children to expand on different ways of thinking about their building strategies.

Mathematics - Classification, Measurement, Volume, Area, Order, Number, Fractions, Length, Height, Width, Depth, Size: Inequality (more than less than), Equality (same as), Space: Topological, Projective, and Euclidean, Shape, Symmetry, and Mapping

When children work with blocks they are able to gain knowledge of size, shape, measurement, sorting, classifying, comparing, identifying similarities and differences, one-to-one correspondence, patterning, categorizing, ordering and comparing, counting and number concepts, addition and subtraction.

As children work with blocks they are able to touch on several difficult mathematical concepts. They identify size and shape as they work with blocks that are long, short, triangular, square, rectangular, etc. Children make and identify patterns and sort and classify blocks by different characteristics. They make approximations about size and stability, and they count and measure. Knowledge of scale, proportion and quantity become known to them as children think about and have hands on experience with them.

Conclusion

In conclusion, block building involves the whole child in meaningful growth to benefit the mind and body of the child. It increases the child's self-esteem by allowing the child to succeed in their creation. There is no "right" or "wrong" way to build a building so there is less chance for a child to experience failure. The process of creating and destroying a building by knocking it down can give the child the feeling of power and in control. Block building engages the child to:

"1. Communicate

2. Exchange ideas

3. Plan and execute the plan

4. Cooperate

5. Share

6. Socialize

7. Think clearly

8. Discipline themselves

9. Concentrate

10. Be part of a group".

(Laitres, 1997)

References

Cartwright, S. (1988). Play Can be the Building Blocks of Learning. Young Children. 43 (5), 44-47.

Cartwright, S. (1990). Learning With Large Blocks. Young Children. 45 (3), 38-41.

Childcraft Education Corp. Unit Blocks the Cornerstones for Learning. [Brochure]

Hirsch, E. S., (1996). The Block Book. National Association for the Education of Young Children. Washington, D.C. 20036-1426.

Laitres, A. F. (1997). The Value of Blocks in the Early Childhood Classroom. Presentation, District 8, New York City. *Paper Presented at meeting*

Lindberg, L. and R. Swedlow (1976). Early Childhood Education. Department of Education. Queens College of the City University of New York. Allyn and Bacon, Inc., Boston, London, Sydney.

Provenzo, Jr. E. F., and A. Brett (1983). The Complete Block Book. Syracuse University Press, Syracuse, New York 13210.

Reifel, S. (1984). Block Construction Children's Developmental Landmarks in Representation of Space. Young Children. 40 (1), 61-67.

Weiss, Ed. D., K. (1997). Let's Build. Scholastic Early Childhood Today. 12 (1), 31-39.